are in fact the active agents which execute the whole immense task of morphogenesis according to the prescribed plan of the species. The situation may be concisely described by saying that the geneticists packed all the essential vital powers into the genes and contented themselves with the phrase £ the genes do it' as the answer to every problem; whereas, of course, even if this answer were true, all the causal problems remain. How do they do it ? This illogical implicit deduction of the geneticists was supported by a closely similar error made by some of the experimental embryologists, on finding that the addition of some material factor or physical stimulus to an egg or embryo (such as certain chemicals or pieces of allied organisms grafted on) was followed by striking additions to the normal course of growth and development. For some such misleading name as ' organizer' having been given to the foreign agency, the common weakness of expecting to find ' the cause' of any striking phenomenon in some one distinguishable factor led to ' the gene ' or £ the organizer' being regarded as ' the cause ' of the unusual development. And since ' the cause' thus singled out was a material factor, the same erroneous tendency led some biologists to see in such factors a confirmation of their materialistic and mechanistic prejudices.

A similar claim is made in less extreme form by so judicious an authority as H. S. Jennings when he writes:

* Experimental genetic science has said of late with some

justification that the problem of heredity is solved;
solved in principle though not in all details. It is solved
to the extent that the nature of the processes underlying
it are largely known.' [x] This statement illustrates a

[1] *Genetic Variation in Relation to Evolution,* 1935.